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ADDITIONS TO THE KNOWN ORNITHOLOGICAL PUBLICATIONS OF C. S. RAFINESQUE.

BY SAMUEL N. RHOADS.

IN looking up references to the published writings of Constantine S. Rafinesque for material relating to Birds, I have secured verbatim copies of two interesting contributions of his to the *Kentucky Gazette*. These, evidently, were not known to Dr. C. W. Richmond when he published reprints of Rafinesque's contributions to Ornithology in 'The Auk', Vol. 26, 1909.

So rare is the *Kentucky Gazette* at this writing, that only one file of it and that quite imperfect is available for reference. This is in the Library of Congress, and through the liberality of Mr. Herbert Putnam I have been able to get copies of the articles referred to. They were published under the sub-title of "The Cosmonist." It will be noted that these are Rafinesque's third and fourth Natural History contributions to the paper, under this heading. It is likely if a complete file of the *Kentucky Gazette* could be secured that some other references to birds might be found therein, for Rafinesque in his later publication, "The Atlantic Journal," page 208, refers to "twenty numbers" of "The Cosmonist" as having been published.

For an essay on "Rafinesque as an Ornithologist," the reader is referred to the recent issue of "Cassinia" for 1911, published by the Delaware Valley Ornithological Club. The following reprints were considered too long for that article and more appropriate for 'The Auk', in which Dr. Richmond's articles on Rafinesque's writings appeared.

Fortunately for our author, these articles are based on his own personal observations of the birds described and from actual specimens, in contrast to his bird notes founded on the fishy stories which were confided to him by Audubon when the two met on that memorable occasion at Henderson, Kentucky. Indeed these two *Kentucky Gazette* articles do more credit to Rafinesque from the ornithological standpoint than all the rest of his bird papers put together and atone in no small degree for the curious performances

in this line which he was led to make through his too ready credulity and mad quest after new species and genera.

They give also an insight into his higher self as an enthusiastic admirer and real lover of nature, a phase rarely exhibited in his published writings of later date. Of what extreme interest would be a discovery of his manuscript on the Ornithology of the United States to which he alludes in his remarkable review of Alexander Wilson's work.

"Kentucky Gazette.

Lexington, K. Thursday Morning February 14, 1822.

Page 3, Col. 4

THE COSMONIST — No. III.

On the Birds of Kentucky and a new Swallow.

Among all the tribes enlivening animated Nature, there are few if any, that are so interesting as the Birds; those aerial beings who enjoy the glorious privilege of roaming th[r]ough the atmosphere, and soaring to the clouds, whence they often may look down with pity upon us confined as we are to creep on the ground. Their lively plumage, and elegant forms charm the eyes, while their melodious voices and varied songs delight the ears.

Ornithology or the branch of Cosmony, which leads us to become thoroughly acquainted with their history and manners, has therefore been cultivated sooner and better than many other branches of natural science. * * * * The splendid works and colored figures of Catesby, Edwards, Buffon, Vieillot, and Wilson, have contributed to make known, the greatest number of the beautiful Birds which live in North America.

The magnificent work of Wilson, published in our country, is well known; and although it has remained imperfect by the untimely death of the author, it stands as a monument of genius, science, and taste. It is also a pity that the worthy author was not aware, that another American Ornithology had been undertaken some years before his (in France, by Vieillot) which has likewise never been completed, where some of his new species were previously described under different names.

The result of Wilson's labors, consist in about 320 figures, belonging to nearly 300 species, among which he has described 56

as new, which might be reduced to less than 50, by comparing them with Vieillot's new species; but increased to about 70, by adding thereto several birds which Wilson did not consider as new, and blended with foreign species, while they are really distinct, and ought to be separated, distinguished and named, as I have done in my manuscript criticism on his work.

Extensive as this number may appear it is less than one half of the real number of our birds. In Ord's Catalogue of the Birds of the United States 573 species are enumerated; but in my Manuscript Catalogue I have ascertained and distinguished above 660 species, among which about 60 species, have been discovered by myself and described as new; Some of these are already published; but the greatest part are only extant in my manuscripts.

Among this number I have already observed and ascertained that upwards of 200 species are found in Kentucky, nearly 40 of which are new for the science of ornithology. These new species belong principally to the Genera or tribes of Warblers, Rails, Hawks, Ducks, Swallows, &c.

Some of our Birds belong even to new Genera, and I published in 1818 in the French Journal of Physics and natural history, the description of a new genus under the name of *Rimamphus citrinus*, to which a single species belongs, which was first discovered in 1808 near Louisville by Mr. Audubon, and mistaken for a Warbler; but it is distinguished from that tribe by its bill open on the sides, and round mandibles. It is besides a silent bird of a pale yellow colour.

There are two species of Swallows in Kentucky, besides several well known species. One of them the red-head Swallow (*Hirundo phenicephale* in ornithology) was already mentioned in my annals of nature No. 1. spec. 16. It is a rare species; grey above, white beneath, with a scarlet head, the bill and feet black.

The second species I shall now describe and call it the Blue Bank-Swallow. I have given it the scientific name of *Hirundo albifrons* which means the Swallow with a white forehead. It is very remarkable by its unforked tail: almost all the Swallows having a large forked tail, and a few species a large stiff and sharp tail; but in this new Swallow the tail is small and truncate, neither sharp, stiff nor forked; this peculiarity occurs also in a South

American species, the Tapera Swallow (*Hirundo tapera*) which is however totally different from ours, being black above and white beneath.

Our Blue Bank-Swallow is a small species, about five inches long: it has a black bill and brown feet. Its face or the space surrounding the bill is black, the forehead white, the top of the head blue; the cheeks, throat and upper part of the rump of a reddish chestnut colour, or rufous, the back is blue spotted with white, the belly of a dirty white, the wings brown, with some yellow spots beneath at the base, and the tail is equal, unforked, truncate and brown.

This pretty Swallow is found on the banks of the Ohio, where it has only been lately noticed; whether it has lately come there from southern regions or had not been noticed heretofore, may be a matter of doubt, but of little consequence. It appears now to be rather common on some peculiar spots, such as near Newport in Kentucky and Madison in Indiana; it comes late in the Spring builds its nest on the high banks of the river and disappears early. Its nest is singular, in the shape of a reversed bottle, with the opening at the end of the neck; the materials being similar to those employed by the common Swallows. This bird is to be seen preserved with its nest in the Museum of Cincinnati: It deserves the further attention of the friends of science.

C. S. RAFINESQUE."

The White-fronted or "Blue Bank Swallow" of Rafinesque, or, to be more brief, the Cliff Swallow of authors, is destined to go down into the history of nomenclature as a distinguished bird. It made so many narrow escapes of being properly named in a binomial sense that it seems a bit humiliating for it to now be snatched from the laurel crown of Thomas Say and transferred, by the rights of priority, to a man whom he undoubtedly despised and certainly ignored. Say was one of the coterie of Philadelphia naturalists that eventually drove Rafinesque and his literary contributions from any recognition by the Academy of Natural Sciences. Whatever Say may have lost, Rafinesque certainly gains greatly in having won, in the priority game of naming and properly describing the Cliff, or Eave or Republican Swallow as

Hirundo albifrons. Say described it in 1823 in the Narrative of Long's Expedition to the Rocky Mountains, under the name "*Hirundo lunifrons*," at least a year later than our Kentucky author's description, as above. It is amusing to read Dr. Elliott Coues' history of the discovery and naming of this species on pages 428-429 of that masterpiece of his, the "Birds of the Colorado Valley." Had he known then of Rafinesque's name for it, we would perhaps have had one more of those epigrammatic paragraphs in which he would have depicted how that eccentric naturalist had stolen the march on all his distinguished contemporaries by a little squib in the Kentucky Gazette. In this connection let us observe that its discoverer names Newport, Ky. as a locality for this species. This town was directly opposite Cincinnati, where Audubon, in 1818, was mounting birds for the Natural History Museum, and it is not unlikely that one of Audubon's specimens was Rafinesque's type!

The second article is as follows:

"Kentucky Gazette.

No. 8. Vol. I. Lexington, K. Thursday Morning, February 21,
1822.

Page 3, Col. 5.

For the Kentucky Gazette.

THE COSMONIST — No. IV.

By winter's gales and stormy winds impell'd,
They leave the briny waves and stray beyond
Their usual haunts, in search of climes unknown.

On the Wandering Sea-birds of the Western States.

Extensive tribes of Birds dwell on the Ocean; they have been met one thousand miles from any land; they fly and skip over the waves, swim and dive in search of food, repose and even sleep on the water; they often defy the storms, and come near the shores merely when the need of laying their eggs compels them to seek convenient places and shelters.

The Sea-birds very seldom wander in the continents, and far from their usual element and food, which consists in fishes, sea-animals and sea-weeds. It was therefore with some astonishment

that I have observed several of them in Kentucky, Ohio, Indiana, &c. Some appear to follow the meanders of the Mississippi and Ohio, and to ramble at a great distance from the gulf of Mexico, their native place, finding probably an adequate food in the variety of fishes swarming in those noble streams.

Pelicans have been seen and shot on the River Ohio, as far as Louisville, Cincinnati, and Portsmouth, nearly 2000 miles from the gulf of Mexico, by the course of the rivers, although only one third of that distance in a direct course. Some few individuals have been seen both in summer and autumn; but do not appear to have raised their young in our rivers.

The other sea-birds which I have observed or noticed in the interior of the western states, belong to the genera of Divers, Gulls, Terns, Phalaropes, Grebes, Sea-ducks, &c. They were seen on the Ohio, Kentucky, Licking river, &c. or even near Lexington and Harrodsburg.

A Loom [sic] was shot near the Kentucky river in the spring of 1821. Several Phalaropes have been shot near Louisville and Henderson. If these birds wandered from the gulf of Mexico, the distance from it in a straight line, was about 600 miles. A Carolina Grebe, (*Podiceps Carolinianus*) was shot at Harrodsburg in March 1821, which came probably from the nearest Atlantic shore of North Carolina, at the distance of 400 miles or more.

These birds must probably be blown from the sea-shore, towards us by some violent storms, and many more in the same predicament may escape our notice. This singular fact in their History deserves however to be recorded.

Among the sea-birds which I have seen in Kentucky, there are two kinds, a Gull and a Tern, which I cannot find described in any book; they might be considered as new species. They must probably have wandered here from the distant shores of the Mexican Gulf and Empire, where many unnoticed birds must exist as yet.

The Gull might be called the wandering Gull: I have given to it the ornithological name of *Larus Marginatus*, which has a reference to its black-edged wings.

Its total length was one foot; but the dimension of the extended wings reached 28 inches. Bill black, feet of an orange color, with

black claws. Head, neck, and belly of a snowy white, back and wings of a pale ash color; but the quills of the wings are white, with a black tip, and the external quill is edged with black, which gives to the whole wing the appearance of having a black edge. The tail is white, and obtuse.

The known species to which it resembles most, is the grey gull, (*Larus canus*) which is found in the United States, and even on our large lakes; but it differs from ours by being much larger, having a yellow bill, greenish feet, several black quills in the wings with white spots &c.

It was shot in January 1821, on a pond near Harrodsburg by Mr. Sutton, and the specimen is in the possession of Doctor Graham of the same town.

The tern or Sea-Swallow may be called the black-headed Tern; I have given it the scientific name of *Sterna melanops*, which implies the same thing.

This Tern was nine inches long from the tip of the bill to the end of the tail, and the dimension of the extended wings was 21 inches. It was of an ash color above, and white beneath with the head, neck and feet blackish. The bill was of a lead color, one inch long, compressed and sharp. The feet had three half-webbed toes, and none behind. The tail was long and forked, white beneath.

This bird is totally different from all the known Terns, and might even perhaps be considered as a new genus, by its long, compressed bill, toes only half-webbed, and want of a hind toe, to which the name of *CHLIDONIAS MELANOPS* might be applied.

It was shot in June 1821, near Harrodsburg, and was preserved by Dr. Graham, in whose possession I saw it.

C. S. RAFINESQUE."

I have consulted with Mr. Witmer Stone, regarding the status of the new species and new genus above described by Rafinesque. We are agreed that *Larus marginatus* Raf. was a Bonaparte's Gull, *Larus philadelphia* (Ord) in winter plumage. It is a synonym of Ord's species, the latter being named in Guthrie's Geography, 2nd Amer. edition, vol. 2, in 1815. *Sterna melanops* Raf. is readily recognized to be a Black Tern in winter or autumn

plumage. The proper specific name of this species is *surinamensis* (Gmelin), given in 1788, so *melanops* is a synonym. The generic (or subgeneric) name of *Chlidonias*, applied to this species by Rafinesque, based, as it is, mainly on the absence of a hind toe, is of peculiar interest, as it appears to have a priority of above 2 months over the previously accepted name of *Hydrochelidon* given this genus by Boie. Boie's name was published in the fifth number of Oken's magazine, Isis, for the year 1822. This would make May of that year the date of publication, whereas Rafinesque's name appeared February 21st. Having determined that Rafinesque's species was the Black Tern we can hardly avoid recognizing the tenability of the generic name of which it is the undoubted type, although the character of the hind toe which he mentions was either a deformity or resulted from the work of the taxidermist in preparing the specimen. In other words, no known species of the subfamily *Sterninæ* normally lacks the hind toes.

As Rafinesque did not base his separation of this genus from *Sterna* wholly on the absence of hind toes but upon one or two other characters, including those of the bill, it would seem necessary to supersede *Hydrochelidon* Boie by *Chlidonias* Rafinesque and to name the Black Tern, *Chlidonias nigra surinamensis* (Gmelin), unless it be considered that his name is identical with *Chlidonia* Hübner, 1816.

NOTES ON THE SPRING MIGRATION AT TIMBER LINE, NORTH OF GREAT SLAVE LAKE.

BY DAVID E. WHEELER, M. D.

THE spring of 1910 I spent with the Dog-rib Indians. During April we hunted the wooded country between Fort Rae on Great Slave Lake and Fort Enterprise.

Only the foundations of Fort Enterprise are left but the place is accurately located on the Canadian maps from Sir John Franklin's survey. I think no white man has visited it since 1821, the date of Franklin's departure. The clearing about the fort is still well